IN THE CLAIMS:

1. (previously presented) A method for detecting a mimic of paclitaxel in a paclitaxel binding site of a microtubule, comprising:

(a) providing a target microtubule and a probe wherein the target microtubule is assembled *in vitro* and stabilized by means of chemical cross-linking and wherein the target microtubule is indefinitely conserved in liquid nitrogen following dialysis against a conservation and cryopreservation buffer,

(b) adding a test substance to a solution of a target microtubule consisting of said target microtubule and a fluorescent probe bound to the target microtubule,

(c) determining the drop in anisotropy of said solution at varying test substance concentrations, and

(d) identifying the test substance as a paclitaxel mimic by means of such drop in fluorescence anisotropy or by measuring the resonance energy transfer to the probe to a suitable acceptor.

2. (canceled)

3. (canceled)

4. (currently amended) A method in accordance with claim 1, wherein the probe is ~~any~~ a fluorescent derivative of paclitaxel that is specifically bound to a microtubule~~, including among others~~

~~7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,~~

~~7-O-[N-(2,7-difluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxel,~~

~~7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel,~~

~~7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel~~.

5. (canceled)

6. (canceled)

7. (previously presented) A method in accordance with claim 1 wherein the method is robotised and the measurements are made using a fluorescence plate reader.

8. (canceled)

9. (canceled)

10. (previously presented) A method in accordance with claim 4 wherein the method is robotised and the measurements are made using a fluorescence plate reader.

11. (canceled)

12. (canceled)

13. (previously presented) A method for the high-efficiency (HTP) identification of antitumour compounds acting on a binding site of paclitaxel in a microtubule, deriving from natural or synthetic sources, comprising the steps of the method of claim 1.

14. (previously presented) A method for the evaluation of new derivatives of taxanes, epotilones, discodermalide, eleuterobine, sarcodicitine and any other binding site ligands of paclitaxel in a microtubule, comprising the steps of the method of claim 1.

15. (previously presented) The method of claim 13, for the quantification of the content of said antitumour compounds in a natural production source.

16. (previously presented) The method of claim 14, for the quantification of the content of said new derivatives in a natural production source.

17. (original) A method for the evaluation of new sources for the extraction or preparation of potentially active substances starting from pharmacologically non-active or semi-active precursors, comprising the steps of the method of claim 1.

18. (previously presented) A method for the development of tools for conducting tests in oncological and/or biological research related to cellular microtubules, comprising the method of claim 1.

19. (new) A method in accordance with claim 4, wherein said probe is selected from the group consisting of

7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,

7-O-[N-(2,7-difluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxel,

7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel,

7-O-[N-(2,7-difluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel.